



MAY - 9 1990

B & C EQUIPMENT COMPANY

19009 16TH AVE.S. SEATTLE, WA 98188

(206) 433-1015

INVOICE

NO. 33129

DATE 5-3-90

YOUR ORDER NO. LESLIE

SCANNED

S
O
L
D
T
O
ALASKA MARINE LINES
7100 2ND AVE S.W.
SEATTLE, WA 98106L
O
C
A
T
I
O
N
7100 2ND AVE SW
5615 W. MARGINAL WAY

Description:

2ND AVE SW - PETRO-TITE TESTED (2) 10,000 GALLON TANKS - WORK WAS
PERFORMED ON SUNDAY. BOTH TANKS FAILED TEST.
DIFFERENTIAL ON STRAIGHT/OVERTIME IS CHARGED.5615 W. MARGINAL WAY - PETRO-TITE TESTED (1) 10,000 AND (1) 3,000
GALLON TANKS. ALSO TESTED (1) DIESEL PRODUCT LINE.
BOTH TANK FAILED TEST. PRODUCT LINE IS "TIGHT".

MODEL & SERIAL

Parts used Quantity Number			Price	Amount	
4		PETRO-TITE TANK TESTS	550.00	2200.00	
1		PETRO-TITE LINE TEST		100.00	
1		WELLPOINT		135.00	
1	633TCP	FILL ADAPTOR		84.89	
1		FUNCTIONAL ELEMENT		71.89	
					2591.78
OUTSIDE SERVICE					
MILEAGE 50 MILES .35 ¢ PER MILE TOTAL					
CUSTOMER	LABOR & TRAVEL		DATE		
	1/2 & 1/2		4/20/90	35.00	INCLUDED
	10 & 1		4/23/90	35.00/52.50	INCLUDED
SERVICEMAN	O.T 9 & 1		4/29/90	17.50	175.00
					175.00

TERMS: NET 30 DAYS INTEREST
1 1/2% PER MONTH 18% PER ANNUM
FROM INVOICE DATE ON ALL LATE
BALANCESTerminal & Facilities
Expense

SUBTOTAL

8.1% TAX

TOTAL

2766.78

224.11

2990.89

4-23-90

DATA CHART

For Use With

petro till
LINE TESTER

1 LOCATION: ALASKA MARINE LINKS 5615 W. MARSHAL WAY SEATTLE WA
Street No. and/or Corner City State Telephone No.

2 OWNER: SAUNA
Name Address Representative Position Telephone No.

3 OPERATOR: SAUNA
Name Dealer, Mgr. or Other Address (If different than Location) Telephone No.

4 REASON FOR TEST CERTIFICATION

5 TEST REQUESTED BY: LESLIE ALASKA MARINE LINKS
Name Position Order No. Billing Address

6 SPECIAL INSTRUCTIONS: _____

7 CONTRACTOR OR COMPANY MAKING TEST
 MECHANIC(S) NAME B+C EQUIPMENT CO JOHN D. COX 414512754

8 IS A TANK TEST TO BE MADE WITH THIS LINE TEST? ☒ YES ☐ NO

9 MAKE AND TYPE OF PUMP OR DISPENSERS Rud Jalcant

10 WEATHER COOL TEMPERATURE IN TANKS _____ °F _____ °C
 COVER OVER LINES _____ CONCRETE Black Top, etc. APPROXIMATE BURIAL DEPTH 29"

11 IDENTIFY EACH LINE AS TESTED	12 TIME (MILITARY)	13 LOG OF TEST PROCEDURES, AMBIENT TEMPERATURE, WEATHER, ETC.	14 PRESSURE		15 VOLUME		16 TEST RESULTS	
			psi OR kPa		READING		NET CHANGE	CONCLUSIONS, REPAIRS AND COMMENTS
			BEFORE	AFTER	BEFORE	AFTER		
DIESEL								BB. +.012
	08:30	START TEST		50				
	:45		48	50	.0350	.0330	-.0020	TIGHT - .0020 GPH
	09:00		50	50	.0330	.0330	+ .0000	
	:15		50	50	.0330	.0330	+ .0000	
	:30		50	50	.0330	.0330	+ .0000	
		BLIND BACK	50	0	.0330	.0450	+ .012	

TIGHT
 -.0020 GPH

Data Chart for Tank System Tightness Test

PLEASE PRINT

1. OWNER Property <input checked="" type="checkbox"/> Tank(s) <input checked="" type="checkbox"/>	ALASKA MARINE LINKS 7100 2ND AVE S.W., SEATTLE WA Name: <u>SAUN</u> Address: _____ Zip: _____ Representative: _____ Telephone: _____ Name: _____ Address: _____ Zip: _____ Representative: _____ Telephone: _____																	
2. OPERATOR	SAUN Name: _____ Address: _____ Zip: _____ Telephone: _____																	
3. REASON FOR TEST (Explain Fully)	CERTIFICATION																	
4. WHO REQUESTED TEST AND WHEN	LKSLIK ALASKA MARINE LINKS 4-26-90 Name: _____ Title: _____ Company or Affiliation: _____ Date: _____ Address: _____ Zip: _____ Telephone: _____																	
5. TANK INVOLVED Use additional lines for manifolded tanks	Identify by Direction	Capacity	Brand/Supplier	Grade	Approx. Age	Steel/Fiberglass												
	NORTH	10,000	ACE ?	Regular	UNKNOWN	STL												
6. INSTALLATION DATA	Location	Cover	Fills	Vents	Siphones	Pumps												
	CENTRAL DRIVE	27" CONCRETE	1-4"	1-2"	NONE	1-SECTION												
	North inside driveway, Rear of station, etc.	Concrete, Black Top, Earth, etc.	Size, Titefill make, Drop tubes, Remote Fills	Size, Manifolded	Which tanks?	Suction, Remote, Make if known												
7. UNDERGROUND WATER	Depth to the water table from grade: <u>Below Tank Bottom</u> is the water over the tank? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No																	
8. FILL-UP ARRANGEMENTS	Tanks to be filled _____ hr. _____ Date _____ Arranged by _____ Name _____ Telephone _____ Extra product to "top off" and run tank tester. How and who to provide? Consider NO Lead. Terminal or other contact for notice or inquiry _____ Company _____ Name _____ Telephone _____																	
9. CONTRACTOR, MECHANICS, any other contractor involved	_____ _____ _____																	
10. OTHER INFORMATION OR REMARKS	_____ _____ Additional information on any items above. Officials or others to be advised when testing is in progress or completed. Visitors or observers present during test, etc.																	
11. TEST METHOD	<input checked="" type="checkbox"/> PETRO TITE <input type="checkbox"/> PETRO COMP <input type="checkbox"/> QUICK CHECK 2000																	
11a. TEST RESULTS	Tests were made on the above tank systems in accordance with test procedures prescribed for as detailed on attached test charts with results as follows: <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">Tank Identification</td> <td style="width: 15%;">Tight</td> <td style="width: 30%;">Leakage Indicated</td> <td style="width: 25%;">Date Tested</td> </tr> <tr> <td>10,000 GAS</td> <td>NO</td> <td></td> <td>4-29-90</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> </tr> </table>						Tank Identification	Tight	Leakage Indicated	Date Tested	10,000 GAS	NO		4-29-90				
Tank Identification	Tight	Leakage Indicated	Date Tested															
10,000 GAS	NO		4-29-90															
12. SENSOR CERTIFICATION	13. CONTRACTOR CERTIFICATION Technicians 1. <u>JOHN A. COX</u> Certification # <u>414 512 754</u> 2. _____ Certification # _____ <div style="text-align: right;"> B & C EQUIPMENT 19009 - 16th Ave. S. Seattle, WA 98188 (206) 433-1015 </div>																	

[illegible]

14. ALASKA MARINE LINES 7100 2ND AVE SW. SEATTLE WA 4-29-90
 Name of Supplier, Owner or Dealer Address No. and Street(s) City State Date of Test

15. TANK TO TEST

NORTH

Identify by position

REGULAR

Brand and Grade

15a. BRIEF DIAGRAM OF TANK FIELD



16. CAPACITY

Nominal Capacity 10,000 Gallons

By most accurate capacity chart available 10,310 Gallons

From

☐ Station Chart

☒ Tank Manufacturer's Chart ACE

☐ Company Engineering Data

☐ Charts supplied with Tank Tester

☐ Other

17. FILL-UP FOR TEST

Stick Water Bottom before Fill-up 1 1/2 in.

30 Gallons

95 Tank Diameter in.

Total Gallons ea. Reading

Inventory in Tank 10,310

Water Bottom 30

Top off equipment + 10

Total Quantity 10,290

18. SPECIAL CONDITIONS AND PROCEDURES TO TEST THIS TANK

☒ Water in tank

☐ Line(s) being tested with LVLLT

☐ High water table in tank excavation

See manual sections applicable. Check below and record procedure in log (27).

Use maximum allowable test pressure for all tests. Four pound rule does not apply to doublewalled tanks.

Complete section below:

1. Is four pound rule required?

Yes ☐ No ☒

2. Height to 12" mark from bottom of tank

155 in.

3. Pressure at bottom of tank 42"

4,836 P.S.I.

4. Pressure at top of tank 42"

2,366 P.S.I.

Depth of burial

45 in.

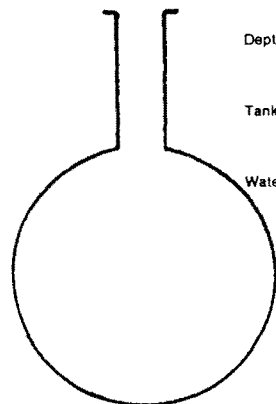
Tank dia.

95 in.

Water table to tank bottom

0 in.

NOTES:



The above calculations are to be used for dry soil conditions to establish a positive pressure advantage, or when using the four pound rule to compensate for the presence of subsurface water in the tank area.

Refer to N.F.P.A. 30, Sections 2-3.2.4 and 2-7.2 and the tank manufacturer regarding allowable system test pressures.

19. TANK MEASUREMENTS FOR TSTT ASSEMBLY

Bottom of tank to grade* 140 in.

Add 30" for "T" probe assy. 30 in.

Total tubing to assemble — approximate 168 in.

20. EXTENSION HOSE SETTING

Tank top to grade* 45 in.

Extend hose on suction tube 6" or more

below tank top +10 in.

*If Fill pipe extends above grade, use top of fill.

USE WITH THERMAL SENSOR PN5039 (Blue Box)

22. Thermal-Sensor reading after circulation 09572

50-51 digits

23. Digits per °F in range of expected change

301 Between digits

24a. IF USING THERMAL SENSOR DTS-2000 OR QC-2000 WHICH READ 1000 DIGITS PER °F TRANSFER 1000 TO LINE 26, DIGITS PER °F IN TEST RANGE.

21. VAPOR RECOVERY SYSTEM

☐ Stage I ☒ Stage II

24b. COEFFICIENT OF EXPANSION RECIPROCAL METHOD

Type of Product Regular

Hydrometer Employed 7 H

Temperature in Tank After Circulation 50.8 °F

Temperature of Sample 60.0 °F

Difference (+/-) + 9.2 °F

Observed A.P.I. Gravity 59.5

Reciprocal 1483 Page # 63

10,290 + 1483 = 6,938,6378

Total quantity in full tank (17) Reciprocal Volume change in this tank per °F

Transfer to Line 26a.

24c. FOR TESTING WITH WATER see Table C & D

Water Temperature after Circulation Table C from Thermal Sensor. N A °F

Coefficient of Water Table D

Added Surfactant? ☐ Yes ☐ No Transfer COE to Line 25b.

25. (a) Total quantity in full tank (17) × (b) Coefficient of expansion for involved product = (c) gallons

26. (a) 6,938,6378 + (b) 301 = (c) 0,230519

Volume change per °F (25 or 24b)

Digits per °F in test Range (23 or 24a)

Volume change per digit Compute to 4 decimal places.

This is test factor (a) A = .0231

Data Chart for Tank System Tightness Test

PLEASE PRINT

1. OWNER	Property <input checked="" type="checkbox"/> Tank(s) <input checked="" type="checkbox"/>	ALASKA MARINE LINES 7100 2ND AVE SEU SEATTLE WA Name: SAUER Address: Zip: Representative: Telephone:											
2. OPERATOR	SAUER Name: Address: Zip: Telephone:												
3. REASON FOR TEST (Explain Fully)	CERTIFICATION												
4. WHO REQUESTED TEST AND WHEN	WASLIK ALASKA MARINE LINES 4-26-90 Name Title Company or Affiliation Date Address Zip Telephone												
5. TANK INVOLVED Use additional lines for manifolded tanks	Identify by Direction	Capacity	Brand/Supplier	Grade	Approx. Age	Steel/Fiberglass							
	SOUTH	10,000	ACA?	DUAL	UNKNOWN	STL							
6. INSTALLATION DATA	Location	Cover	Fills	Vents	Siphones	Pumps							
	CANTON DRIVE <small>North inside driveway, Rear of station, etc.</small>	27" CONCRETE <small>Concrete Crack Top</small>	1-4" <small>Size, Titefill make, Drop tubes, Remote Fills</small>	1-2" <small>Size, Manifolded</small>	NONE <small>Which tanks?</small>	1-SECTION <small>Suction, Remote, Make if known</small>							
7. UNDERGROUND WATER	Depth to the water table from grade Below tank Bottom Is the water over the tank? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No												
8. FILL-UP ARRANGEMENTS	Tanks to be filled _____ hr. _____ Date Arranged by _____ Name _____ Telephone _____ Extra product to "top off" and run tank tester. How and who to provide? Consider NO Lead. Terminal or other contact for notice or inquiry _____ Company _____ Name _____ Telephone _____												
9. CONTRACTOR, MECHANICS, any other contractor involved													
10. OTHER INFORMATION OR REMARKS													
11. TEST METHOD	<input checked="" type="checkbox"/> PETRO TITE <input type="checkbox"/> PETRO COMP <input type="checkbox"/> QUICK CHECK 2000												
11a. TEST RESULTS	Tests were made on the above tank systems in accordance with test procedures prescribed for as detailed on attached test charts with results as follows: <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">Tank Identification</td> <td style="width: 15%;">Tight</td> <td style="width: 30%;">Leakage Indicated</td> <td style="width: 25%;">Date Tested</td> </tr> <tr> <td>10,000 DUAL</td> <td>NO</td> <td>-.555 GPH</td> <td>4-29-90</td> </tr> </table>					Tank Identification	Tight	Leakage Indicated	Date Tested	10,000 DUAL	NO	-.555 GPH	4-29-90
Tank Identification	Tight	Leakage Indicated	Date Tested										
10,000 DUAL	NO	-.555 GPH	4-29-90										
12. SENSOR CERTIFICATION	13. CONTRACTOR CERTIFICATION <table style="width: 100%;"> <tr> <td style="width: 50%;"> Technicians 1. JOHN D COX Certification # 414512754 2. _____ Certification # _____ </td> <td style="width: 50%; text-align: right;"> B & C EQUIPMENT 19009 - 16th Ave. S. Seattle, WA 98188 (206) 433-1015 Testing Contractor or Company. By: _____ Address _____ </td> </tr> </table>					Technicians 1. JOHN D COX Certification # 414512754 2. _____ Certification # _____	B & C EQUIPMENT 19009 - 16th Ave. S. Seattle, WA 98188 (206) 433-1015 Testing Contractor or Company. By: _____ Address _____						
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27. Sensor Calibration <u>16600, 601</u>			30. HYDROSTATIC PRESSURE CONTROL		31. VOLUME MEASUREMENTS (V) RECORD TO .001 GAL.			34. TEMPERATURE COMPENSATION USE FACTOR (a)			38. NET VOLUME CHANGING EACH READING	39. ACCUMULATED CHANGE
LOG OF TEST PROCEDURES			Standpipe Level in inches		Product in Graduate		33. Product Replaced (-)	35. Thermal Sensor Reading	36. Change Higher + Lower - (c)	37. Computation (c) * (a) = Expansion + Contraction -	Temperature Adjustment Volume Minus Expansion (+) or Contraction (-) #33(V) - #37(T)	At Low Level compute Change per Hour (NFPA criteria)
28. DATE <u>4-29-90</u>	Record details of setting up and running test. (Use full length of line if needed.)	29. Reading No.	Beginning of Reading	Level to which Restored	Before Reading	After Reading	Product Recovered (+)					
TIME (24 hr.)	<u>DIESEL</u>											
	SET-UP EQUIPMENT			TOPPED-OFF								
13:00	STARTING CIRCULATION											
14:30	API SAMPLE											
1:35	1ST SENSOR READING			42				10.275				AF.0151
1:50	START HIGH LEVEL TEST	1	41.6	42	.715	.680	-.035	283	+8	+1.121	-.156	
15:05		2	41.5	42	.680	.640	-.040	291	+8	+1.121	-.161	
1:20		3	41.4	42	.640	.595	-.045	298	+7	+1.106	-.151	
1:35		4	41.4	42	.595	.550	-.045	305	+7	+1.106	-.151	
1:50		5	41.3	42	.550	.500	-.050	313	+8	+1.121	-.171	
16:05		6	41.3	42	.500	.450	-.050	321	+8	+1.121	-.171	
1:20		7	41.4	42	.450	.405	-.045	328	+7	+1.106	-.151	
1:35		8	41.6	42	.405	.370	-.035	335	+7	+1.106	-.141	
1:36	DROP TO LOW LEVEL			12								
1:50	Re bound	1		12				343	+8			
17:05	Re bound	2		12				352	+9			
1:10	1ST 5 min READING	1	11.9	12	.440	.435	-.005	354	+2	+1.030	-.035	
1:15		2	11.9	12	.435	.430	-.005	357	+3	+1.045	-.050	
1:20		3	11.9	12	.430	.425	-.005	360	+3	+1.045	-.050	
1:25		4	11.9	12	.425	.420	-.005	363	+3	+1.045	-.050	
1:30		5	11.9	12	.420	.415	-.005	366	+3	+1.045	-.050	
1:35		6	11.9	12	.415	.410	-.005	369	+3	+1.045	-.050	-.285
1:40		7	11.9	12	.410	.405	-.005	372	+3	+1.045	-.050	
1:45		8	11.9	12	.405	.400	-.005	375	+3	+1.045	-.050	
1:50		9	11.9	12	.400	.395	-.005	378	+3	+1.045	-.050	
1:55		10	11.9	12	.395	.390	-.005	381	+3	+1.045	-.050	
18:00		11	11.9	12	.390	.385	-.005	383	+2	+1.030	-.035	

14. ALASKA MARINE LINES 7100 2ND AVE SW SEATTLE WA 4-29-90
Name of Supplier, Owner or Dealer Address No. and Street(s) City State Date of Test

15. TANK TO TEST

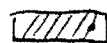
SOUTH

Identity by position

DIPSA

Brand and Grade

15a. BRIEF DIAGRAM OF TANK FIELD



16. CAPACITY

Nominal Capacity 10,000 Gallons

By most accurate capacity chart available 10,310 Gallons

From

☐ Station Chart

☒ Tank Manufacturer's Chart ACE

☐ Company Engineering Data

☐ Charts supplied with Tank Tester

☐ Other

17. FILL-UP FOR TEST

Stick Water Bottom before Fill-up 1/2" in. 10 Gallons 95 Tank Diameter in.

Total Gallons as Reading

Inventory in Tank 10,310

Water Bottom - 10

Top off equipment + 10

Total Quantity 10,310

18. SPECIAL CONDITIONS AND PROCEDURES TO TEST THIS TANK

☒ Water in tank ☐ Line(s) being tested with LVLLT

☐ High water table in tank excavation

See manual sections applicable. Check below and record procedure in log (27).

Use maximum allowable test pressure for all tests.
Four pound rule does not apply to doublewalled tanks.

Complete section below:

1. Is four pound rule required?

Yes ☐ No ☒

2. Height to 12" mark from bottom of tank

154 in.

3. Pressure at bottom of tank

5.704 P.S.I.

4. Pressure at top of tank

2.759 P.S.I.

Depth of burial

45 in.

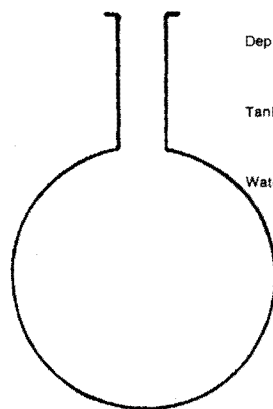
Tank dia.

95 in.

Water table to tank bottom

0 in.

NOTES:



The above calculations are to be used for dry soil conditions to establish a positive pressure advantage, or when using the four pound rule to compensate for the presence of subsurface water in the tank area.

Refer to N.F.P.A. 30, Sections 2-3.2.4 and 2-7.2 and the tank manufacturer regarding allowable system test pressures.

19. TANK MEASUREMENTS FOR TSTT ASSEMBLY

Bottom of tank to grade* 140 in.

Add 30" for "T" probe assy. 30 in.

Total tubing to assemble - approximate 168 in.

20. EXTENSION HOSE SETTING

Tank top to grade* 45 in.

Extend hose on suction tube 6" or more below tank top 10 in.

*If Fill pipe extends above grade, use top of fill.

USE WITH THERMAL SENSOR PN5039 (Blue Box)

22. Thermal-Sensor reading after circulation 10 275 digits

53.54 °F

23. Digits per °F in range of expected change 308 digits

24a. IF USING THERMAL SENSOR DTS-2000 OR QC-2000 WHICH READ 1000 DIGITS PER °F TRANSFER 1000 TO LINE 26, DIGITS PER °F IN TEST RANGE.

21. VAPOR RECOVERY SYSTEM ☐ Stage I ☐ Stage II

24b. COEFFICIENT OF EXPANSION RECIPROCAL METHOD

Type of Product DISSOL

Hydrometer Employed 4 H

Temperature in Tank After Circulation 53.2 °F

Temperature of Sample 60.0 °F

Difference (+/-) + 6.8 °F

Observed A.P.I. Gravity 32.5

Reciprocal 2216 Page # 36

10,310 + 2216 = 4,652,527

Total quantity in full tank (17) Reciprocal Volume change in this tank per °F Transfer to Line 26a.

24c. FOR TESTING WITH WATER see Table C & D

Water Temperature after Circulation Table C from Thermal Sensor N-A °F

Coefficient of Water Table D

Added Surfactant? ☐ Yes ☐ No Transfer COE to Line 25b.

25. (a) Total quantity in full tank (17) x (b) Coefficient of expansion for involved product = (c) Volume change in this tank per °F gallons

26. (a) 4,652,527 + (b) 308 = (c) 1,015,105.6 This is test factor (a)

Digits per °F in test Range (23 or 24a) Compute to 4 decimal places. Volume change per digit

Data Chart for Tank System Tightness Test

PLEASE PRINT

1. OWNER	Property <input checked="" type="checkbox"/> Tank(s) <input checked="" type="checkbox"/>	ALASKA MARINE LINES 5615 W. MARSHALL WAY SEATTLE WA Name: <u>SAW</u> Address: _____ Zip: _____ Representative: _____ Telephone: _____ Name: _____ Address: _____ Zip: _____ Representative: _____ Telephone: _____												
2. OPERATOR	SAW Name: _____ Address: _____ Zip: _____ Telephone: _____													
3. REASON FOR TEST (Explain Fully)	CERTIFICATION													
4. WHO REQUESTED TEST AND WHEN	NAME: <u>WASLIR</u> Title: _____ Company or Affiliation: <u>ALASKA MARINE LINES</u> Date: <u>4-19-90</u> Address: _____ Zip: _____ Telephone: _____													
5. TANK INVOLVED	Identify by Direction <u>EAST</u>	Capacity <u>3,000</u>	Brand/Supplier <u>ACH</u>	Grade <u>REGULAR</u>	Approx. Age <u>UNKNOWN</u>	Steel/Fiberglass <u>STL</u>								
Use additional lines for manifolded tanks														
6. INSTALLATION DATA	Location <u>SOUTH LOT</u>	Cover <u>Concrete (Black Top, Earth, etc.)</u>	Fills <u>1-4"</u>	Vents <u>1-2"</u>	Siphones <u>NONE</u>	Pumps <u>1- SUCTION</u>								
North inside driveway, Rear of station, etc.		Concrete (Black Top, Earth, etc.)	Size, Titefill make, Drop tubes, Remote Fills	Size, Manifolded	Which tanks?	Suction, Remote, Make if known								
7. UNDERGROUND WATER	Depth to the water table from grade <u>66</u> Is the water over the tank? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No													
8. FILL-UP ARRANGEMENTS	Tanks to be filled _____ hr. _____ Date _____ Arranged by _____ Name _____ Telephone _____ Extra product to "top off" and run tank tester. How and who to provide? Consider NO Lead. Terminal or other contact for notice or inquiry _____ Company _____ Name _____ Telephone _____													
9. CONTRACTOR, MECHANICS, any other contractor involved														
10. OTHER INFORMATION OR REMARKS														
Additional information on any items above. Officials or others to be advised when testing is in progress or completed. Visitors or observers present during test, etc.														
11. TEST METHOD	<input checked="" type="checkbox"/> PETRO TITE		<input type="checkbox"/> PETRO COMP		<input type="checkbox"/> QUICK CHECK 2000									
11a. TEST RESULTS	Tests were made on the above tank systems in accordance with test procedures prescribed for as detailed on attached test charts with results as follows: <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>Tank Identification <u>3,000 Regular</u></td> <td>Tight <u>NO</u></td> <td>Leakage Indicated <u>-.103 GPH</u></td> <td>Date Tested <u>4-23-90</u></td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </table>						Tank Identification <u>3,000 Regular</u>	Tight <u>NO</u>	Leakage Indicated <u>-.103 GPH</u>	Date Tested <u>4-23-90</u>				
Tank Identification <u>3,000 Regular</u>	Tight <u>NO</u>	Leakage Indicated <u>-.103 GPH</u>	Date Tested <u>4-23-90</u>											
12. SENSOR CERTIFICATION	Date <u>1991</u> Serial No. of Thermal Sensor _____													
13. CONTRACTOR CERTIFICATION														
Technicians 1. <u>JOHN D. COX</u> Certification # <u>414 512 754</u> 2. _____ Certification # _____														
Address: _____ <div style="text-align: right;"> B & C EQUIPMENT 19009 - 16th Ave Seattle, WA 981 (206) 422-1010 </div>														

27. Sensor Calibration <u>16541 / 541</u>			30. HYDROSTATIC PRESSURE CONTROL		31. VOLUME MEASUREMENTS (V) RECORD TO .001 GAL.			34. TEMPERATURE COMPENSATION USE FACTOR (a)			38. NET VOLUME CHANGING EACH READING	39. ACCUMULATED CHANGE
LOG OF TEST PROCEDURES			Standpipe Level in Inches		Product in Graduate		33. Product Replaced (-)	35. Thermal Sensor Reading	36. Change Higher + Lower - (c)	37. Computation (c) x (a) = Expansion + Contraction -	Temperature Adjustment Volume Minus Expansion (+) or Contraction (-) #33(V) - #37(T)	At Low Level compute Change per Hour (NFPA criteria)
28. DATE 4-23-90 TIME (24 hr.)	Record details of setting up and running test. (Use full length of line if needed.) <u>Regular</u>	29. Reading No.	Beginning of Reading	Level to which Restored	Before Reading	After Reading	Product Recovered (-)					
	REMOVES DROP TUBE / SET-UP EQUIPMENT / CHECKED WELL POINT / TOPPED OFF /											
	BLEED AIR AT PUMP											
11:00	START CIRCULATION											
125	API SAMPLE											
130	1ST SENSOR READING			42				10536				A = .0066
145	START HIGH LEVEL TEST	1	36.8	42	.940	.640	-.300	547	+11	+0.073	-.373	
12:00		2	37.0	42	.640	.370	-.270	558	+11	+0.073	-.343	
115		3	39.0	42	.370	.210	-.160	567	+9	+0.059	-.219	
130		4	39.8	42	.210	.090	-.120	575	+8	+0.053	-.173	
145		5	41.0	42	.550	.495	-.055	582	+7	+0.046	-.101	
13:00		6	42.0	42	.495	.495	+0.000	590	+8	+0.053	-.053	
101	DROP TO LOW LEVEL			12								
115	Rebound	1		12				601				
130	Rebound	2		12				613				
135	1ST 5 MIN READING	1	12.2	12	.555	.565	+0.010	614	+1	+0.007	+0.003	
140		2	12.2	12	.565	.575	+0.010	618	+4	+0.026	-.016	
145		3	12.2	12	.575	.585	+0.010	621	+3	+0.020	-.010	
150		4	12.2	12	.585	.595	+0.010	625	+4	+0.026	-.016	
155		5	12.3	12	.595	.610	+0.015	629	+4	+0.026	-.011	
14:00		6	12.2	12	.610	.620	+0.010	631	+2	+0.013	-.003	-.053
105		7	12.3	12	.620	.635	+0.015	635	+4	+0.026	-.011	
110		8	12.2	12	.635	.645	+0.010	639	+4	+0.026	-.016	
115		9	12.2	12	.645	.655	+0.010	643	+4	+0.026	-.016	
120		10	12.3	12	.655	.670	+0.015	648	+5	+0.033	-.018	
125		11	12.2	12	.670	.680	+0.010	652	+4	+0.026	-.016	
130		12	12.2	12	.680	.690	+0.010	655	+3	+0.020	-.010	-.140
135		13	12.2	12	.690	.700	+0.010	658	+3	+0.020	-.010	

14. ALASKA MARINE LINES

SEATTLE

WA

4-23-90

Name of Supplier, Owner or Dealer

Address No. and Street(s)

City

State

Date of Test

15. TANK TO TEST

EAST

Identity by position

Regular

Brand and Grade

15a. BRIEF DIAGRAM OF TANK FIELD

N
↑

16. CAPACITY

Nominal Capacity 3,000 Gallons

By most accurate capacity chart available 3023 Gallons

From

☐ Station Chart☒ Tank Manufacturer's Chart ACE☐ Company Engineering Data☐ Charts supplied with Tank Tester☐ Other

Total Gallons ea. Reading

17. FILL-UP FOR TEST

Stick Water Bottom before Fill-up

0 in.

0 Gallons

75.5 in.

Tank Diameter

Inventory in Tank

3023

Water Bottom

0

Top off equipment

5

Total Quantity

3028

18. SPECIAL CONDITIONS AND PROCEDURES TO TEST THIS TANK

☐ Water in tank☐ Line(s) being tested with LVLLT☒ High water table in tank excavation

See manual sections applicable. Check below and record procedure in log (27).

Use maximum allowable test pressure for all tests.
Four pound rule does not apply to doublewalled tanks.

Complete section below:

1. Is four pound rule required?

Yes ☒ No ☐

2. Height to 12" mark from bottom of tank

225 in.

3. Pressure at bottom of tank

4.254 P.S.I.

4. Pressure at top of tank

4.667 P.S.I.

Depth of burial

56.5 in.

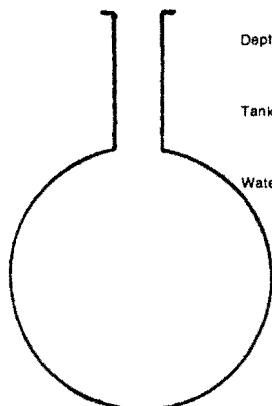
Tank dia.

75.5 in.

Water table to tank bottom

66 in.

NOTES:



The above calculations are to be used for dry soil conditions to establish a positive pressure advantage, or when using the four pound rule to compensate for the presence of subsurface water in the tank area.

Refer to N.F.P.A. 30, Sections 2-3.2.4 and 2-7.2 and the tank manufacturer regarding allowable system test pressures.

19. TANK MEASUREMENTS FOR TSTT ASSEMBLY

Bottom of tank to grade* 132 in.

Add 30" for "T" probe assy. 30 in.

Total tubing to assemble — approximate 156 in.

20. EXTENSION HOSE SETTING

Tank top to grade* 56.5 in.

Extend hose on suction tube 6" or more

below tank top +10 in.

*If Fill pipe extends above grade, use top of fill.

USE WITH THERMAL SENSOR
PN5039 (Blue Box)

22. Thermal-Sensor reading after circulation 10 536 digits

54 55 °F

23. Digits per °F in range of expected change 311 digits

24a. IF USING THERMAL SENSOR DTS-2000 OR QC-2000 WHICH READ 1000 DIGITS PER °F TRANSFER 1000 TO LINE 26, DIGITS PER °F IN TEST RANGE.

21. VAPOR RECOVERY SYSTEM

NONE

☐ Stage I ☐ Stage II24b. COEFFICIENT OF EXPANSION
RECIPROCAL METHOD

Type of Product Regular

Hydrometer Employed 6 H

Temperature in Tank After Circulation 54.0 °F

Temperature of Sample 51.0 °F

Difference (+/-) -3.0 °F

Observed A.P.I. Gravity 58.3

Reciprocal 1478 Page # 62

3028 + 1478 = 2.0487144

Total quantity in full tank (17) Reciprocal Volume change in this tank per °F

Transfer to Line 26a.

24c. FOR TESTING WITH WATER see Table C & D

Water Temperature after Circulation Table C from Thermal Sensor. N.A. °F

Coefficient of Water Table D

Added Surfactant? ☐ Yes ☐ No Transfer COE to Line 25b.

25. (a) Total quantity in full tank (17) × (b) Coefficient of expansion for involved product = (c) Volume change in this tank per °F gallons

26. (a) 2.0487144 ÷ (b) 311 = 0.0065875

Volume change per digit Compute to 4 decimal places.

This is test factor (a) A = .0066

Data Chart for Tank System Tightness Test

PLEASE PRINT

1. OWNER	Property <input checked="" type="checkbox"/> Tank(s) <input checked="" type="checkbox"/>	ALASKA MARINE LINES 5615 W. MARSHALL WAY SEATTLE WA Name Address Zip Representative Telephone Name Address Zip Representative Telephone											
2. OPERATOR	Name Address Zip Telephone Name Address Zip Telephone												
3. REASON FOR TEST (Explain Fully)	CERTIFICATION												
4. WHO REQUESTED TEST AND WHEN	LESLIE ALASKA MARINE LINES 4-19-90 Name Title Company or Affiliation Date Address Zip Telephone												
5. TANK INVOLVED Use additional lines for manifolded tanks	Identify by Direction	Capacity	Brand/Supplier	Grade	Approx. Age	Steel/Fiberglass							
	WEST	10,000	ACA	DIESEL	UNKNOWN	STL							
6. INSTALLATION DATA	Location	Cover	Fills	Vents	Siphones	Pumps							
	SOUTH LOT		1-4"	1-2"	NONE	1-STP							
	North inside driveway, Rear of station, etc.	Concrete (Black Top, Earth, etc.)	Size, Titefill make, Drop tubes, Remote Fills	Size, Manifolded	Which tanks?	Suction, Remote, Make if known							
7. UNDERGROUND WATER	Depth to the water table from grade 66 Is the water over the tank? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No												
8. FILL-UP ARRANGEMENTS	Tanks to be filled _____ hr _____ Date Arranged by _____ Name Telephone Extra product to "top off" and run tank tester. How and who to provide? Consider NO Lead. Terminal or other contact for notice or inquiry _____ Company Name Telephone												
9. CONTRACTOR, MECHANICS, any other contractor involved													
10. OTHER INFORMATION OR REMARKS	Additional information on any items above. Officials or others to be advised when testing is in progress or completed. Visitors or observers present during test, etc.												
11. TEST METHOD	<input checked="" type="checkbox"/> PETRO TITE <input type="checkbox"/> PETRO COMP <input type="checkbox"/> QUICK CHECK 2000												
11a. TEST RESULTS	Tests were made on the above tank systems in accordance with test procedures prescribed for as detailed on attached test charts with results as follows: <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">Tank Identification</td> <td style="width: 15%;">Tight</td> <td style="width: 30%;">Leakage Indicated</td> <td style="width: 25%;">Date Tested</td> </tr> <tr> <td>10,000 DIESEL</td> <td>NO</td> <td>-.255 GPH</td> <td>4-23-90</td> </tr> </table>					Tank Identification	Tight	Leakage Indicated	Date Tested	10,000 DIESEL	NO	-.255 GPH	4-23-90
Tank Identification	Tight	Leakage Indicated	Date Tested										
10,000 DIESEL	NO	-.255 GPH	4-23-90										
12. SENSOR CERTIFICATION	13. CONTRACTOR CERTIFICATION Technicians 1. JOHN A. COY Certification # 714512754 2. _____ Certification # _____ <div style="text-align: right;"> B & C EQUIPMENT 19009 - 16th Ave. S Seattle WA 98181 (206) 433-1015 </div>												

27. Sensor Calibration <u>16600 / 601</u>			30. HYDROSTATIC PRESSURE CONTROL		31. VOLUME MEASUREMENTS (V) RECORD TO .001 GAL.			34. TEMPERATURE COMPENSATION USE FACTOR (a)			38. NET VOLUME CHANGING EACH READING	39. ACCUMULATED CHANGE
LOG OF TEST PROCEDURES			29. Reading No.		32. Product in Graduate		33. Product Replaced (-)	35. Thermal Sensor Reading	36. Change Higher + Lower - (c)	37. Computation (c) * (a) = Expansion + Contraction -	38. Temperature Adjustment Volume Minus Expansion (+) or Contraction (-) #33(V) - #37(T)	39. At Low Level compute Change per Hour (NFPA criteria)
28. DATE 4 23 90 TIME (24 hr.)	Record details of setting up and running test. (Use full length of line if needed.) DIXSEL		Beginning of Reading	Level to which Restored	Before Reading	After Reading	Product Recovered (+)					
	REMOVED DROP TUBE / SET-UP EQUIPMENT / CHECKED WELL POINT / ISOLATED PRODUCT											
	LINE / TOPPED OFF / BLEAD AIR AT TURBINE RISER											
09:30	START CIRCULATION											
10:55	API SAMPLER											
11:00	1ST SENSOR READING			42				10580				A = .0150
11:15	START HIGH LEVEL TEST		1	40.6	42	.360	.245	-115	578	-2	-7,030	-7,085
11:30			2	40.6	42	.245	.135	-110	578	+0	+1,000	-7,110
11:45			3	40.5	42	.610	.500	-110	579	+1	+1,015	-7,125
12:00			4	40.5	42	.500	.390	-110	579	+0	+1,000	-7,110
12:15			5	40.7	42	.390	.290	-100	579	+0	+1,000	-7,100
12:30			6	40.7	42	.290	.190	-100	580	+1	+1,015	-7,115
12:45			7	40.6	42	.190	.080	-110	580	+0	+1,000	-7,110
13:00			8	40.8	42	.240	.160	-080	581	+1	+1,015	-7,095
13:01	DROP TO LOW LEVEL			12								
13:15	Rebound		1	12				583				
13:30	Rebound		2	12				585				
13:35	1ST S/NW READING		1	11.8	12	.165	.155	-7,010	585	+0	+1,000	-7,010
13:40			2	11.8	12	.155	.140	-7,015	586	+1	+1,015	-7,030
13:45			3	11.8	12	.140	.130	-7,010	587	+1	+1,015	-7,025
13:50	SLIGHT BOUNCE IN S/P		4	11.8	12	.130	.115	-7,015	588	+1	+1,015	-7,030
13:55			5	11.8	12	.115	.105	-7,010	588	+0	+1,000	-7,010
14:00			6	11.8	12	.105	.090	-7,015	588	+0	+1,000	-7,015
14:05			7	11.8	12	.090	.075	-7,015	589	+1	+1,015	-7,030
14:10			8	11.8	12	.075	.060	-7,015	589	+0	+1,000	-7,015
14:15			9	11.7	12	.380	.365	-7,015	590	+1	+1,015	-7,030
14:20			10	11.7	12	.365	.345	-7,020	590	+0	+1,000	-7,020
14:25			11	11.7	12	.345	.325	-7,020	590	+0	+1,000	-7,020

		12	11.7	12	.325	.305	-0.020	590	+0	+1.000	-1.020	-.255
STOPPED TEST AFTER		1 HR						RATE	- .255 GPH			

1. Net Volume Change at Conclusion of Precision Test _____ gph

Signature of Tester: [Signature]

Date: 4-23-90

- ☐ Tank and product handling system has been tested tight according to the Precision Test Criteria as established by regulatory agency. This is not intended to indicate permission of a leak.
- OR
- ☒ Tank and product handling system has failed the tank tightness test according to the Precision Test Criteria as established by regulatory agency.
- OR
- ☐ Test invalid due to environmental or mechanical factors beyond control of the testing equipment.

It is the responsibility of the owner and/or operator of this system to immediately advise state and local authorities of any implied hazard and the possibility of any reportable pollution to the environment as a result of the indicated failure of this system. The manufacturer of this test method does not assume any responsibility or liability for any loss of product to the environment.

15. TANK TO TEST

WEST

Identity by position

DIESEL

Brand and Grade

15a. BRIEF DIAGRAM OF TANK FIELD



16. CAPACITY

Nominal Capacity 10,000 Gallons

By most accurate capacity chart available 10,310 Gallons

From

☐ Station Chart

☒ Tank Manufacturer's Chart ACC

☐ Company Engineering Data

☐ Charts supplied with Tank Tester

☐ Other

17. FILL-UP FOR TEST

Stick Water Bottom before Fill-up

0 in.

0 Gallons

95 in.

Tank Diameter

Total Gallons ea. Reading

Inventory in Tank

10,310

Water Bottom

0

Top off equipment

10

Total Quantity

10,320

18. SPECIAL CONDITIONS AND PROCEDURES TO TEST THIS TANK

☐ Water in tank

☒ Line(s) being tested with LVLLT

☒ High water table in tank excavation

See manual sections applicable. Check below and record procedure in log (27).

Use maximum allowable test pressure for all tests. Four pound rule does not apply to doublewalled tanks.

Complete section below:

1. Is four pound rule required?

Yes ☒ No ☐

2. Height to 12" mark from bottom of tank

215 in.

3. Pressure at bottom of tank

4.283 P.S.I.

4. Pressure at top of tank

4.650 P.S.I.

Depth of burial

63 in.

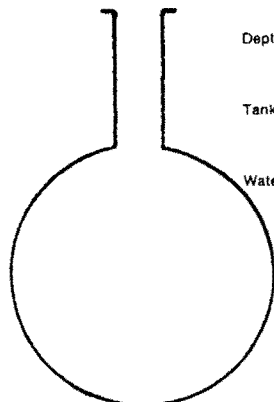
Tank dia.

95 in.

Water table to tank bottom

92 in.

NOTES:



The above calculations are to be used for dry soil conditions to establish a positive pressure advantage, or when using the four pound rule to compensate for the presence of subsurface water in the tank area.

Refer to N.F.P.A. 30, Sections 2-3.2.4 and 2-7.2 and the tank manufacturer regarding allowable system test pressures.

19. TANK MEASUREMENTS FOR TSTT ASSEMBLY

Bottom of tank to grade* 158 in.

Add 30" for "T" probe assy. 30 in.

Total tubing to assemble — approximate 192 in.

20. EXTENSION HOSE SETTING

Tank top to grade* 63 in.

Extend hose on suction tube 6" or more

below tank top +10 in.

*If Fill pipe extends above grade, use top of fill.

USE WITH THERMAL SENSOR PN5039 (Blue Box)

22. Thermal-Sensor reading after circulation 10 580 digits

54-55 °F

23. Digits per °F in range of expected change 311 digits

24a. IF USING THERMAL SENSOR DTS-2000 OR QC-2000 WHICH READ 1000 DIGITS PER °F TRANSFER 1000 TO LINE 26, DIGITS PER °F IN TEST RANGE.

21. VAPOR RECOVERY SYSTEM

☐ Stage I ☒ Stage II

24b. COEFFICIENT OF EXPANSION RECIPROCAL METHOD

Type of Product DIESEL

Hydrometer Employed 4 H

Temperature in Tank After Circulation 54.2 °F

Temperature of Sample 51.0 °F

Difference (+/-) -3.2 °F

Observed A.P.I. Gravity 32.2

Reciprocal 2208 Page # 36

10,320 + 2208 = 4.673913

Total quantity in full tank (17) Reciprocal Volume change in this tank per °F

Transfer to Line 26a.

24c. FOR TESTING WITH WATER see Table C & D

Water Temperature after Circulation Table C from Thermal Sensor N/A °F

Coefficient of Water Table D

Added Surfactant? ☐ Yes ☐ No Transfer COE to Line 25b.

25. (a) _____ × (b) _____ = (c) _____ gallons

Total quantity in full tank (17) Coefficient of expansion for involved product Volume change in this tank per °F

26. (a) 4.673913 ÷ (b) 311 = (c) .0150286

Volume change per °F (25 or 24b) Digits per °F in test Range (23 or 24a) Volume change per digit Compute to 4 decimal places.

This is test factor (a) A = .0150